



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/903,732	07/13/2001	Takashi Arisawa	01458.00008	9346

22907 7590 03/27/2003

BANNER & WITCOFF
1001 G STREET N W
SUITE 1100
WASHINGTON, DC 20001

EXAMINER

MENEFEE, JAMES A

ART UNIT PAPER NUMBER

2828

DATE MAILED: 03/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/903,732

Applicant(s)

ARISAWA ET AL.

Examiner

James A. Menefee

Art Unit

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.


- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 July 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 9-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.


PAUL IP
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 July 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. 6) ☐ Other: _____

Art Unit: 2828

DETAILED ACTION

Response to Amendment

In response to the preliminary amendment filed 13 July 2001, claim 8 is cancelled and claims 9-11 added. Claims 1-7 and 9-11 are pending.

Drawings

The drawings are objected to because of the following informalities:

In Fig. 1 “telescope” is misspelled.

In Fig. 2 “oscillator” is misspelled.

In Fig. 9 “Raman” is misspelled.

In Fig. 10A “master” and “linear” are misspelled.

Figures 10A, 10B, and 10C should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities: On page 1 line 25 the term “1B” should read -10B-. On page 2 line 1 the term “MHz” should be preceded by a number, the number of MHz. Appropriate correction is required.

The abstract of the disclosure is objected to because of the following:

Art Unit: 2828

The abstract should be in narrative form and generally limited to a single paragraph within the range of 50 to 150 words.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "This disclosure concerns," "The disclosure defined by this invention," "This disclosure describes," etc.

Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-7 and 9-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1, 4, 6, and 7, there is no structure in the claims. The claims only list functional language. A functional statement cannot serve to distinguish a claim from a reference since it does not define any structure. *In re Mason*, 244 F.2d 733, 113 USPQ 127 (CCPA 1957). These claims provide no structure, and therefore cannot be distinguished from any prior art reference.

Regarding claims 2-3, while these claims add some structural elements, i.e. the four types of optics, the claims are still indefinite. First, the claims are incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. There is no claimed relationship

Art Unit: 2828

between the optics, that is there is nothing in the claims suggesting where in the system the optics are located relative to each other. Further, there is nothing in the claims to suggest that the laser system will operate properly. The optics must further be defined so that one skilled in the art may reasonably understand how they operate. It has been held that the recitation that an element is "capable of" performing a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchison*, 69 USPQ 138. The structure of the optics, i.e. shape, materials, and anything else critical to their operation, should be claimed so that one skilled in the art may understand their use. Further, the system supposedly generates laser light, but there is nothing in the claims to suggest that any laser light is formed. The optics, in and of themselves, will not generate a laser light absent some external laser source or further structure showing this to be the case.

Regarding claims 5 and 9-11, while the claims are recited as a device claim, it is unclear whether the applicant intends to claim a device or a method. The claim alternates between methods and device structure. Terms such as "choosing a nonlinear crystal", or "using two crystals" do not represent a positive recitation of such elements. Further, the functional language and the operation of the elements must be improved similarly to the rejections above.

In conclusion, the claims are so unclear and lacking in scope that it cannot be determined what structure the applicant is intending to claim. The claims must be amended so that they define some type of structure for the devices as claimed, and the structure must be made clear in accordance with the above rejections.

Art Unit: 2828

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims ¹⁻⁷~~2-3~~, and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dane et al. (US 5,260,954) in view of Kong et al. (US 5,377,211).

Regarding claims 1, 4, 6, and 7, the claims comprise only functional language. Thus, there is no structure in the claims, and they cannot be distinguished from the prior art.

Regarding claims 2-3, Dane discloses a compact laser light generating system comprising a short pulse pump laser generating optics capable of SBS based compression and simultaneous correction of wave planes. Two different cells 34,44 are used to generate the short pulses by SBS

There is not disclosed optics by which the beam is subjected to SRS amplification and pulse shortening. Kong teaches a system where light oscillation is performed using both SRS and SBS. It would have been obvious to one skilled in the art to further include SRS optics in the system of Dane because utilizing both types of scattering can improve the efficiency and output of the system, as taught by Kong.

There is not disclosed a light collimating system comprising prisms and cylindrical lenses. Such collimating systems are well known in the art. It would have been obvious to one skilled in the art to include such optics in the system so that the laser beam is aligned and focused properly for entrance in the various other optics of the device, as is well known.

Art Unit: 2828

There is not disclosed optics by which the light beam is further shortened in wavelength by generation of harmonics. Laser systems including harmonic generating optics are extremely well known in the art, as an entire subclass in the U.S. classification system is drawn to such systems (class 372, subclass 22). It would have been obvious to one skilled in the art to include such harmonic generating optics in a laser system in order to shorten the wavelength in order to achieve the wavelength required by a specific application, as is well known.

Regarding claim 5, the limitations are similarly taught as in claims 2-3 above where both SRS and SBS occur, and there are two crystals (34,44 from Dane) that oscillate and amplify the light.

Regarding claims 9-11, there is not disclosed optics by which the light beam is further shortened in wavelength by generation of harmonics. This limitation as well as motivation is taught as in the rejection of claim 2 above.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Franck et al. (US 5,648,976) also discloses a system that uses SBS for pulse compression.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A. Menefee whose telephone number is (703) 605-4367. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on (703) 308-3098. The fax phone numbers for the

Art Unit: 2828

organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

JM
March 11, 2003



PAUL IP
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800